We claim:

1. An isolated polypeptide, comprising a sequence represented by one of SEQ ID NO:1 through SEQ ID NO:7; SEQ ID NO:9; or SEQ ID NO:14 through SEQ ID NO:17.

2. An isolated polypeptide of claim 1, comprising a sequence represented by one of SEQ ID NO:1 through SEQ ID NO:7.

3. An isolated polypeptide of claim 1, comprising a sequence represented by one of SEQ ID NO:9 or SEQ ID NO:14 through SEQ ID NO:17.

4. A pharmaceutical composition, comprising one or more polypeptides of claim 1 and a pharmaceutically acceptable carrier.

5. An immunogenic composition, comprising one or more polypeptides of claim 1 and, optionally, an adjuvant.

6. The immunogenic composition of claim 5, which stimulates cytotoxic T cells specific to the polypeptide.

7. The immunogenic composition of claim 5, which comprises an epitope that stimulates *Thelieria parva (T. parva-)* specific cytotoxic T cells.

8. A vaccine, comprising one or more polypeptides of claim 1 and, optionally, an adjuvant.

9. The vaccine of claim 8, which protects an animal against *T. parva* infection.

10. The polypeptide of claim 1, which is present in detectable amounts in isolates of *T. parva*.

11. The polypeptide of claim 1, comprising a *T. parva* antigen.

12. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:1.

13. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:2.

14. The polypeptide of claim 1 wherein the sequence is represented by SEQ ID NO:3.

15. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:4.

16. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:5.

17. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:6.

18. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:7.

19. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:9.

20. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:14.

21. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:15.

22. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:16.

23. The polypeptide of claim 1, wherein the sequence is represented by SEQ ID NO:17.

24. An isolated polynucleotide comprising:

(a) a sequence represented by one of SEQ ID NO:18 through SEQ ID NO:23 or SEQ ID NO:28 through SEQ ID NO:31;

(b) a sequence which is at least about 90% identical to a sequence of (a);

(c) a sequence which hybridizes under conditions of high stringency to a polynucleotide which comprises a sequence of (a);

(d) a sequence which encodes a polypeptide represented by SEQ ID NO:1 through SEQ ID NO:7; SEQ ID NO:9; or SEQ ID NO:14 through SEQ ID NO:17; or

(e) a complement of any of (a), (b), (c) or (d).

25. The isolated polynucleotide of claim 24, wherein the polynucleotide comprises a sequence represented by one of SEQ ID NO:18 through SEQ ID NO:23 or SEQ ID NO:28 through SEQ ID NO:31, or comprises a complement thereof.

26. The isolated polynucleotide of claim 24, wherein the polynucleotide comprises a sequence which is at least about 90% identical to a sequence of (a), or comprises a complement thereof.

27. The isolated polynucleotide of claim 24, wherein the polynucleotide comprises a sequence which hybridizes under conditions of high stringency to a polynucleotide which comprises a sequence of (a), or which hybridizes under conditions of high stringency to a complement of the sequence of (a).

28. The isolated polynucleotide of claim 24, wherein the polynucleotide comprises a sequence which encodes a polypeptide represented by SEQ ID NO:1 through SEQ ID NO:7; SEQ ID NO:9; or SEQ ID NO:14 through SEQ ID NO:17, or which comprises a complement of the encoding sequence.

29. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:18.

30. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:19.

31. The isolated polynucleotideof claim 24, wherein the sequence in (a) is represented by SEQ ID NO:20.

32. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:21

33. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:22.

34. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:23.

35. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:28.

36. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:29.

37. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:30.

38. The isolated polynucleotide of claim 24, wherein the sequence in (a) is represented by SEQ ID NO:31.

39. A pharmaceutical composition comprising the polynucleotide of claim 24 and a pharmaceutically acceptable carrier or excipient.

40. A recombinant construct, comprising a polynucleotide of claim 24, operably linked to an expression control sequence.

41. A vector comprising the recombinant construct of claim 40.

42. The vector of claim 41, which further comprises one or more sequences encoding a selectable marker.

43. The vector of claim 41, which comprises a plasmid, a bacteriophage, a minichromosome or a eukaryotic virus vector.

44. A host cell comprising a vector of claim 41.

45. The host cell of claim 44, which is prokaryotic.

46. The host cell of claim 44, which is eukaryotic.

47. A method for producing a polypeptide which stimulates a *T. parva*-antigen specific cytotoxic lymphocyte (CTL), comprising culturing a host cell of claim 44 under conditions effective for producing a polypeptide encoded by the polynucleotide, and harvesting the polypeptide.

48. An antibody specific for the polypeptide of claim 1.

49. The antibody of claim 48, which is a polyclonal antibody.

50. The antibody of claim 48, which is a monoclonal antibody.

51. The antibody of claim 48, which is coupled to a carrier and/or a label.

52. A kit for detecting the presence of *T. parva* in a sample suspected of containing *T. parva*, or for purifying *T. parva* from a sample containing *T. parva*, comprising an antibody of claim 48.

53. The kit of claim 52, which further comprises means for performing an enzyme-linked or Western blot assay to detect the presence of *T. parva*.

54. The kit of claim 52, which further comprises means for binding the antibody to *T. parva* in the sample, and for releasing the organism from the antibody.

55. A method for protecting an animal against infection by *T. parva*, comprising administering to the animal a polypeptide of claim 1, under conditions effective for the animal to generate a protective antibody against the polypeptide.

56. A method for protecting an animal against infection by *T. parva*, comprising administering to the animal a polypeptide of claim 1, under conditions effective for the animal to generate *T. parva*-antigen-specific CTLs.

57. A method for protecting an animal against infection by *T. parva*, comprising administering to the animal a host cell of claim 46 under conditions effective for the animal to generate a protective antibody against a polypeptide expressed by the polypeptide.

58. A method for protecting an animal against infection by *T. parva*, comprising administering to the animal a host cell of claim 46, under conditions effective for the animal to generate *T. parva*-antigen-specific CD4+ helper and CD8+ Cytotoxic T lymphocyte responses.

59. A method for detecting a pathogenic protozoan infection in a subject, comprising contacting peripheral blood monocytes from the subject with peptide-antigen pulsed cytotoxic T lymphocytes, wherein the cytotoxic T lymphocytes are obtained from an animal to which has been administered a polypeptide of claim 1, under conditions effective for the animal to generate *T. parva*-antigen-specific CTLs.

60. A method for detecting a pathogenic protozoan infection in a subject, comprising contacting peripheral blood monocytes from the subject with peptide-antigen pulsed cytotoxic T lymphocytes, wherein the T lymphocytes are obtained from an animal to which has been administered a host cell of claim 46, under conditions effective for the animal to generate *T. parva*-antigen-specific CD4+ helper and CD8+ Cytotoxic T lymphocyte responses.

61. A method for detecting *T. parva* in a sample suspected of containing *T. parva*, comprising detecting in the sample a polynucleotide of claim 24.

62. The method of claim 61, which is high throughput.

63. A method for preparing a polyclonal antibody, comprising immunizing an animal with one or more polypeptides of claim 1.

64. A method for preparing a polyclonal antibody, comprising immunizing an animal with a host cell of claim 46.

65. A method for preparing a monoclonal antibody, comprising:

(a) immunizing an animal with a polypeptide of claim 1,

(b) recovering cells from the animal which produce antibody that binds to the polypeptide,

(c) preparing a hybridoma with the cells isolated in (b), and

(d) recovering a monoclonal antibody from the hybridoma that binds to the polypeptide in (a).

66. A method for preparing a monoclonal antibody, comprising:

(a) immunizing an animal with a host cell of claim 46,

(b) recovering cells from the animal which produce antibody that binds to a polypeptide produced by the host cell,

(c) preparing hybridomas with the cells isolated in (b), and

(d) recovering a monoclonal antibody from the hybridoma that binds to the polypeptide in (b).

67. A method for identifying *T. parva* in a sample suspected of containing *T. parva*, comprising contacting the sample with an antibody of claim 48, under conditions effective for the antibody to bind specifically to its cognate antigen, and detecting the presence of bound antibody.

68. The method of claim 67, wherein the detection is carried out by enzyme immunoassay, radioimmunoassay, fluorescence immunoassay, flocculation, particle agglutination, flow microfluorimetry, a competition assay, or *in situ* chromogenic assay.

69. The method of claim 67, wherein the antibody is a polyclonal antibody.

70. The method of claim 67, wherein the antibody is a monoclonal antibody.

71. The method of claim 67, which is quantitative.

72. The method of claim 67, which is high throughput.

73. A method for the identification of parasite antigens that are targets of cytotoxic T lymphocytes, comprising co-culturing immortalized fibroblast cell lines transfected with pooled cDNA harvested from a pathogen, with clones of lines of cytotoxic T cells, generated in an animal that has been immunized, by infection and treatment with the pathogen and assaying the supernatant from the co-culture for the presence of a soluble factor.

74. A method for a three-way matrix resolution for identification of a single cDNA clone from a pool of cDNAs, in high throughput procedures, comprising:

(a) preparing a culture of transformed cells by transforming bacterial cells with DNA from a pool of about 25 to about 500 cDNAs, wherein said pool has tested positive in a routine assay;

(b) diluting the culture of transformed cells so as to yield a density of about 500-5000 growth colonies per 150 cm2, when plated on agar-containing plates;

(c) picking about 100 to 500 colonies from the growth cultures;

(d) placing about 5 to 60 pools of about 10-100 individual cultures grown from the colonies, into numbered tubes, in such a manner such that each individual bacterial culture is present in more than one of said pools, so that tubes are labeled with a unique number and positioned so that a matrix of tubes is created so as to accommodate a multi-channel pipetting device;

(e) creating a corresponding matrix table is by arraying the numbers on the corresponding tubes containing the pools into a matrix table;

(f) testing the DNA from each of the tubes in a screening assay; and

(g) identifying the individual positive colony by comparing the results with the matrix array.

75. The method of claim 73, wherein the soluble factor is a cytokine.

76. The method of claim 75, wherein the cytokine is a gamma interferon.

77. The method of claim 74, wherein the screening assay causes the release of gamma interferon by CD8+ cytotoxic T cells.

78. The method of claim 73 or claim 74, further comprising assaying the supernatant of co-cultured cells, for the presence of a soluble factor, secreted by the cytotoxic T cells.

79. The method of claim 73, wherein the pathogen is a protozoan organism.

80. The method of claim 73, wherein the fibroblast cell line is of bovine origin.

81. The method of claim 73, wherein the fibroblast cell line of bovine origin displays bovine Class I, MHC antigens.

82. The method of claim 79, wherein the protozoan organism is the macroschizhont stage of an organism in the genus *Theileria*.

83. The method of claim 82, wherein the organism is *T. parva*.

84. The method of claim 74, wherein the soluble factor is a cytokine.

85. The method of claim 84, wherein the cytokine is gamma interferon.